

# ***THE B&O MODELER***

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**MODELING THE B&O'S GONDOLA FLEET – CLASS O-27  
ANNUAL CONVENTION MODEL AND PHOTOGRAPH CONTEST  
17 ROOMETTE – 1 SECTION S-18 *ROARING CAMP***

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**Cover Photos – Top, O-27 Gondolas – Elden Gatwood photo. Middle, P-24 Flat Car – John Teichmoeller photo. Bottom, Passenger Car *Roaring Camp* – Bruce Elliott photo.**

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## AN INVITATION TO JOIN THE B&O RAILROAD HISTORICAL SOCIETY

The Baltimore and Ohio Railroad Historical Society is an independent non-profit educational corporation. The Society's purpose is to foster interest, research, preservation, and the distribution of information concerning the B&O. Its membership is spread throughout the United States and numerous foreign countries, and its scope includes all facets of the B&O's history. Currently the Society has over 1600 registered members.

Members regularly receive a variety of publications offering news, comments, technical information, and in-depth coverage of the B&O and its related companies. Since 1979, the Society has published a quarterly magazine, *The Sentinel*, dedicated to the publication of articles and news items of historical significance. Other Society publications include monographs, calendars, equipment rosters, and reprints of original B&O source material. Their

purpose is to make otherwise unobtainable data available to the membership at reasonable cost.

Membership in the Society is a vote of support and makes all of the Society's work possible. It provides those interested in the B&O with a legitimate, respected voice in the railroad and historical communities. By working together, B&O fans are able to accomplish much more than by individual efforts. No matter how diverse your interests or how arcane your specialty, others share your fascination with America's most historic railroad. We invite your participation. Several classes of [annual memberships](#) are available. Regular memberships are only \$35.00. If you would like to join, click [here](#) to fill out our [membership application](#), print a copy and mail it to:

**B&ORRHS**

**ATTN: Membership**

**P.O. Box 24068**

**Baltimore, MD 21227-0568**

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## FROM THE ASSOCIATE EDITOR

### **If You've Got it, Flaunt it.**

I've always had the philosophy that there is no point to building models if you aren't going to show them to people. Think about it--why go to all the trouble of building an accurate model of, say, a B&O box car, getting all the details right, duplicating the Duryea underframe to the last rivet, selecting the color as carefully as possible, and making sure to use only the

correct font for the lettering, only to then hide it away in your basement from prying eyes? Yet, despite there being a very active B&O modeling community, there never seems to be very many (if any) models on display at the various mini-cons or conventions that the Society organizes.

Now, why do you suppose this should be? Part of it, I'm sure, is due to the fear of our models not being good enough to show off in a public forum. Then too, there may be a fear of the model being stolen, or damaged in transit. Perhaps there is the thought that what we are working on may not be of much interest to our fellow B&O modelers. Finally, it may be that the event sponsors need to do a better job of promoting that there will be *secure* display space available. I think each of these perceptions contribute to the lack of models on display, but I also think they get overblown in our minds, and achieve an importance all out of proportion to their actual reality. Remember, at the mini-cons, at least, there is no judged contest. It is simply what my local NMRA Division used to call a "Bring 'n Brag". You set your model down, and if anyone has questions, they can find you and discuss how you built the model or whatever. I met one of my model railroading buddies that way at the first Ohio mini-con, with the kicker being that he too lives in Ellwood City! WE had to travel all the way to Ohio to meet, but if I hadn't had my kitbashed EM-1 on display, we still might not be aware of each other. Although there is a judged contest at the annual National Convention, there is no law saying you have to enter your models—mark them "display only" if you don't want the pressure of competing against other modelers.

While it is certainly a possibility that a model could be stolen, I don't believe in the years that I've been taking models to various events that this has ever happened (although I have read of it happening to others). The event sponsors could help this by simply having volunteers in the display area to keep an eye on things, and making sure that if someone is removing a model, it's their's to remove.

Models are of course fragile, and damage can happen at any time, but again, at least in my experience this is not likely, or if it does happen, will be minor. Careful packing and handling are the watchwords here, along with the courtesy of others not handling models on display. Again, I can't recall a situation

where someone has picked up one of my models without asking my permission first, but again, having volunteers keeping an eye on the models would be an excellent precaution.

I find all B&O models to be of interest, if only from the standpoint of maybe learning a new technique that I can apply to my modeling repertoire. Think for a moment—recently there was an article on modeling an L&NE steam engine in one of the major model railroading magazines. Did you skip it because you model only B&O steam? Or, did you at least skim it, with the thought that some of the ways that that modeler handled duplicating his prototype would be useful in your modeling? We all have different ways of building models, and displaying them publicly is an excellent way to get people talking and sharing methods.

Finally, I've alluded to this above, but let me be explicit: the event sponsors must consider both promoting the idea that people should bring models to display, and making sure to provide a well-lighted, reasonably secure area in which to show them. Simply listing in the flyer that there is display space available would be a good start. And as for finding volunteers to "baby-sit" the models—well, if you can't find them before the start of the event, then have one person in charge of the set-up, and have him or her ask modelers as they are setting up if they would be willing to sit for an hour or so to keep an eye on things. I'd be willing to, and I am sure that everyone else displaying would be also.

So, the next time you're going to a B&O event, take a model or two along, particularly those of you who are "leaders" in modeling the B&O by always pushing the envelope of accuracy. And if you really, really don't feel comfortable with displaying your models publicly, then take some photos and share them with the rest of us via *B&O Modeler*. After all, if your models are that great, you should be willing to share them with the rest of us.

**Greg LaRocca**

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## NEWS FROM THE COMPANY STORE

BY CRAIG CLOSE

Lots of PS-1 40' boxcar models by Kadee are waiting to go to new homes. There are five different cars with three covering the 1964-68 era and two for 1968-80. Those later era cars have ACI labels. The cars were

made by Pullman Standard starting in 1956. The B&O leased a number of them in 1964 with class designation of M-67a. They have a single 6' door.



These are Kadee quality, ready-to-run models with trucks and couplers.

You can order the cars at the Company Store web site ([www.borhs.org](http://www.borhs.org) under Models) as stock numbers 33141 thru 33135. Typically, even for Society members, there are no discounts on the Kadee products. However, for these cars the 10% discount remains available to members - one time only - on a single set of all five different cars. You must be a member and order all five cars on the same order form. Any other cars, even if all five are ordered, must be separated from the discounted set and will not get the discount.

Other boxcar models available are the M-26D/E conversions kits from Speedwitch, stock numbers 33113 and 33114, for \$32 and \$34 respectively. These kits are based upon Red Caboose models.

The Kadee covered hopper cars, stock 33134 thru 33146 at \$45, are in very limited supply. If you order without specifying "No" to road number substitution,

you may get 33145 substituted because there are a few more of that item than of the other two.

Another type of model in short supply are the cabooses from Pacific Mountain Scale Shop. PMSS has stopped production and sold off their relatively small supply of stock and their molds to a couple of BORRHS members. See the store web site for the Store stock still available in the 32001 to 32018 number range. 32017 and 32018 are in greater quantity than the others. Any future production will be at fairly substantial price increases.

Do you need diesels? Check out the list of GP-9's and GP-30's, and other types available. And be sure to read The Short Blasts included with the next Sentinel for sales on reprints.

The B&O Modeler Index is available as item 79001 for \$3.00 plus \$1.50 shipping. Additionally, a CD which includes all issues of the magazine through 2006 has been produced as item 40201. The cost is \$10.00 plus \$1.50 shipping.



Edwin Kirstatter Photograph

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## ANNUAL CONVENTION MODEL AND PHOTOGRAPH CONTESTS

BY: JOHN TEICHMOELLER

PHOTOS BY AUTHOR UNLESS OTHERWISE SPECIFIED.

The model contest this year was similar to those of the past and at the same time a little different. The meeting notice carried the same boilerplate regarding the “rules,” and referred several times to the Contest Chairman. However, there was no Contest Chairman named, and there was no line of volunteers at the registration counter of folks who wanted to serve in that role or even help tabulate the normal popular vote ballots. Model contests in general are going through changes. For example, participation in the formal contests at National Model Railroad Association conventions seems to be on a definite decline. Even in contests with popular vote competitions, such as the Pennsylvania Railroad Technical and Historical Society’s, the number of models posted in the “display” category seems to be surpassing those in the “judged” category. It would seem that “competitive modeling” is falling out of favor. So there was no model contest as such.

Instead, Bruce Griffin and I decided to photograph all the models on display with the idea of covering them in some fashion, with more or less commentary, in the *B&O Modeler*. To retain some aspect of competitive spirit in honor of those who took the trouble to bring models and photos, Bruce and I, along the lines of Railroad Model Craftsman’s annual Craftsman Trophy, simply made choices of several “Photographers Favorites.”

The model and photography competition this year also had another wrinkle: to enter the photo competition, apparently your name had to be Allen. Allen Young had all the entries. And to enter the model competition, your name had to be Bruce—Bruce Griffin and Bruce Elliott provided all the fun.

One other comment: unlike other organizations’ model contests where the models deserve multiple tables in their own room, traditionally the B&ORRHS’s has relegated the models to a few tables in the sales room. While this certainly makes security easier, the lack of dedicated space probably does not encourage larger participation. Perhaps our officers and directors may wish to consider the pros and cons of adding a few bucks to the registration fee to provide funds for engaging part of the meeting hotel’s ballroom space for more models.



Yes, there might be a lot of empty space until this really catches on, but since most of us are modelers—or at least consider ourselves as such whether we actually do it or not—this is something worth considering. Of course, someone has to volunteer to chair this activity and recruit volunteers for security and model registration.





Bruce Griffin's incomplete X-30 snowplow project—to whet our appetite for a future article in *B&O Modeler*. The remainder of the freight cars are also by Bruce Griffin.



If you have an unassembled Funaro and Camerlengo N-34 wagontop hopper on your shelf, Bruce brought this to show you what it looks like built-up.





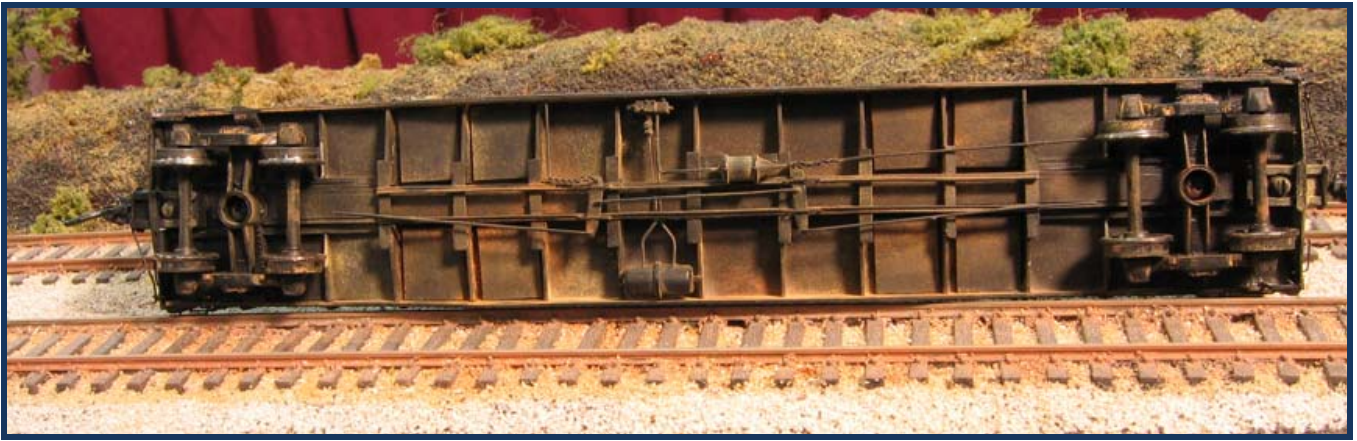
Bruce's M-15e, Westerfield kit. Wait, you say, it's brown, not red. Yep, Bruce has a photo to back this up. Remember, boxcar colors changed over the years.



Bruce's M-15k F&C wagontop boxcar kit. Another one many of us probably have on our shelves—yes, it builds up nicely. Nice chalk marks.







Bruce's O-59a Sunshine gondola kit, heavily weathered. As some of you know, these Sunshine gondolas make no provision for weight. Not visible to most was the special run of Adair Shops rectangular weights inserted between the stringers. This model received "Photographers Favorite" designation for freight cars.



I-12 C2460 Bruce built up the Pacific Mountain Shops version of this wagontop. Of interest were the very fine wire handrails.





C2502 This is an Overland I-5ba that Bruce painted. Is the extra cost of brass worth it to you? There is no right or wrong here.





SD7 760 The B&O's first SD7. Bruce had a writeup to go along with the model and indicates there will be an article in a future *B&O Modeler* on this one.







Bruce Elliott brought along this scratch-built HO version of the Shop and Superintendent's Office building that stands to the east of Point of Rocks Station. Bruce noted that he ended up using at least 3 different flavors of brick material to construct this. Bruce has already built up the Model Tech Studios version of Point of Rocks, and now he can complete the scene. I will be sending photos of this model to James Bester of Model Tech Studios with a suggestion for another kit. This model received "Photographers Favorite" for structures.

All passenger equipment was presented by Bruce Elliott, who, with Bob Chapman, has been consistently conscientious in documenting his B&O passenger modeling efforts in articles for our enjoyment. Bruce's entry could have been considered in the "favorite train" category but we will comment on the individual units. Bruce had a commentary sheet for some but not all of the models. Perhaps the ones without have been covered in *The Sentinel* or *B&O Modeler*—I don't follow passenger equipment so I don't remember such things:

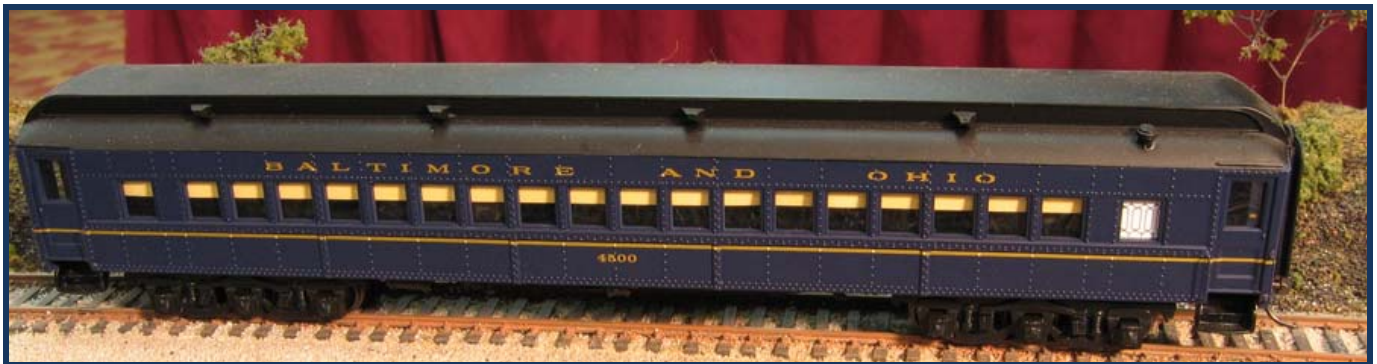






P-24 flat car 8017, a Proto West model, modified as an excursion car. Bruce Elliott built up the flatcar kit and scratch-built the passenger accommodations, populated by quite a few of those Preiser figures. He based his work on a prototype diagram of the car which was included in his display. This car received the “Photographers Favorite” designation in the passenger category, and was nicknamed “Where did all those Germans come from?” or “Teichmoeller Family Reunion.”





Bethlehem Car Works Coach Class AE coach 4500. Bruce did not have any written commentary as part of his display.



A-32a coach No. 4680—Rivarossi car with New England Rail Service Paired Windows





B-8a 625 baggage car IHC car with no modifications other than the 2x6 boards applied across the baggage door openings. The stock grabs were a little on the heavy side, so this was useful in that it offered the viewer a comparison with the other cars that had more scale-sized grabs. Wait a minute, is that The King standing in the right hand open baggage doors?



Coach 4334. No commentary was provided.





O-27a 251724, a Westerfield gondola with Proto 2000 drop ends substituted and with another load of Preiser's Germans, back in the good old days before all those lawyers took over.



The train was pulled by Q4b 4470. This is the venerable Akane piece. Gee, maybe some day Broadway Limited will do a state-of-the-art version.



Allen Young's photos were all technically good and also thematically interesting in that each represented something relevant to B&ORRHS conventions—although not all were taken during a convention tour. The Photographer's Favorite was this shot of the AK drawbridge on the Arthur Kill taken from the bus window in October 2003 traveling westbound on the Goethals Bridge. So if you are ever tempted to take a shot from a bus window but your fellow travelers are trying to discourage you as it being a waste of film, give it a try. I have had bus window shots published myself.



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## MODELING THE B&O's GONDOLA FLEET – CLASS O-27

BY: ELDEN GATWOOD

PHOTOS BY AUTHORS UNLESS OTHERWISE SPECIFIED.



### Introduction

The O-27 classes were the B&O's most numerically significant gondola class of the Twentieth Century. Beginning with the USRA-built O-27 (no sub-class) cars of 1919, and ending with the many variations of sub-class O-27a of 1922 through 1925, the 6,500 cars that comprised these two original classes, along with their numerous rebuilt sub-classes, were found everywhere on American railroads into the mid-1960's.

Any modeler of the B&O, and most every modeler of any other American railroad that desires a truly representative fleet, needs at least one example of the class. And, for any modeler of the industrial Northeast, one should consider two or more, in one or more sub-classes.

For those in HO scale, this may also be the time for you to consider getting into building resin kits, as the opportunity for using the superb, and easily-constructed one-piece-bodied Westerfield resin kit, which gives you a number of modeling options. There is also the readily-available Walthers USRA gondola kit in HO that may be used to model these classes. Modelers in other scales are not so well-served, but could use most any medium-length

(roughly 46' IL) riveted 12-rib drop-end gon to model this class, as any fishbelly can be cut away, and ribs tapered, with minimal effort.

### The Prototype

The O-27 class of gondola cars began with the B&O's receipt of 500 USRA-mandated and Standard Steel Car Company-built 46-foot inside-length USRA-designed cars placed on the road in 1919. The O-27 class came as-built in the "standard" USRA configuration, which included a riveted steel carbody with a wooden floor and drop ends, featuring a flat, steel-sheathed drop end with a shallow oval depression behind the brake wheel, a pivoting brake stand assembly, circular poling pockets on a protruding end sill, a tapered end splice plate with no ribs on either end of each side, Carmer cut levers, and Andrews 70-ton trucks (which look very much like the "Crown" truck). The O-27 class came as number series 250000 to 250499.

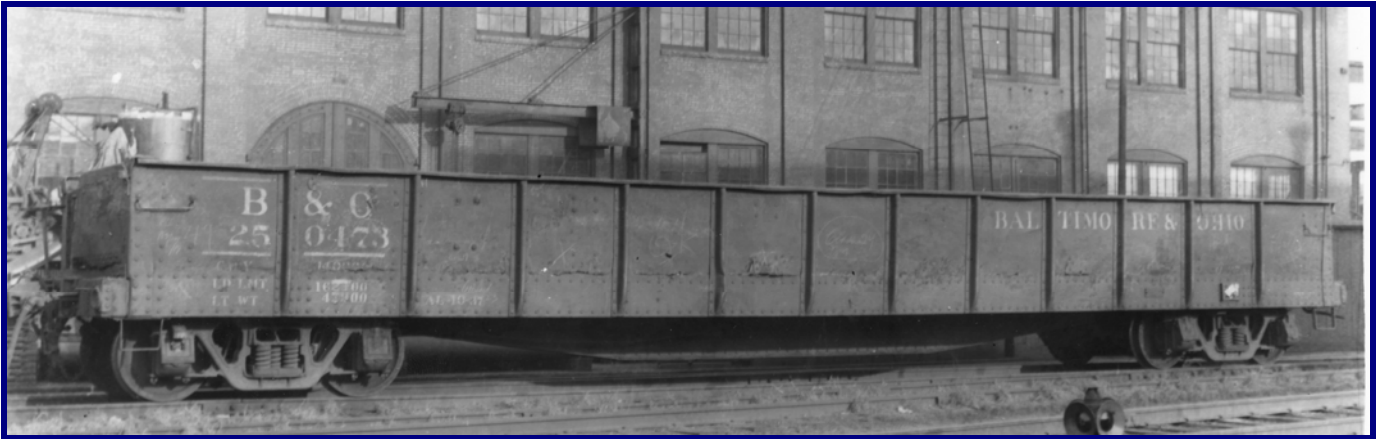
The B&O adopted the design for its own, generating 6,000 "clones" in the period of 1922 through 1925. The first of these clones, which became the first of sub-class O-27a, were built by Cambria Steel in Johnstown, PA., and only differed from their earlier brethren in the substitution of Tatum (these appear to

be fairly standard “arch bar”) trucks for the earlier Andrews, and the elimination of the USRA poling pockets from the end sills. This first, thousand-strong group of the O-27a class came as number series 250500 to 251499.

The next group of O-27a, which came from Cambria Steel’s new owner, Bethlehem Steel, differed from both earlier groups in the elimination of the narrower-opening USRA corner and drop end yoke in favor of a wider-opening B&O-designed end with a stronger, ribbed corner post, and lipped end opening,

the substitution of rod-type cut levers mounted on top of the end sill, and with car 252400, the substitution of Symington trucks for the earlier Tatums. This next, thousand-strong group was placed in number series 251500 to 252499.

The following group of O-27a came in 1925, with a unique, B&O-designed “creased” end. These cars also featured cast sideframe 70-ton trucks, and new three-link chain hold-downs in the interior. This final, 3,000-strong group came numbered in series 252500 to 256499.



O-27 number 250473, B&ORRHS Collection

The O-27b, a class unrelated to the O-27 or O-27a, came in 1929. This 1800-car class was a 50-foot IL car with a fishbelly sidesill. This was the topic of an article in the September/October 2005 issue of *The B&O Modeler*.

Rebuilding of the cars began in 1929, with conversion of either eleven or 50 cars, depending on the source, from class O-27a, to class O-27c, to haul NYC-designed LCL containers. These cars were placed in new number series 256500 to 256549. The modification appears to have been limited to the installation of blocking in the interior, to prevent shifting of the LCL containers. Removal of the cars from LCL container service was not accompanied by re-numbering. ORER data indicates the existence of eleven cars in this class (sans containers) all the way through the 1950’s, with a pair lingering into 1965!

The O-27d, 8 cars in number, were converted from the above-mentioned O-27b, for commercial vehicle loading service, and will also not be discussed further here.

The O-27e, a one-car sub-class (number 250470), was converted from a single O-27 for loading of

“Keeshin” trailers, in 1936. This involved removal of the ends and installation of tie-down gear. This car lasted only into about 1950, and was converted back to class O-27.

The O-27f was another one-car sub-class, built, as Al Westerfield reports, as a single class car for a 100-cars order, in 1947 at DuBois Shops, and numbered as car 249000. I was not able to determine what differences this car had over a “standard” O-27a (aside from a slightly shorter 45’11” IL), but the inclusion of a corner-mounted wheeled hand brake is evident on diagrams.

The O-27g was a four-car conversion of O-27 class cars in 1948 at Glenwood Shops, to include a new nailable steel floor. These cars were numbered as cars 248000-248003. They seem to have retained their end-mounted hand brake assemblies.

An oddity in an otherwise sequential sub-class progression of O-27/O-27a conversions existed in the existence of cars 560000-560074, also as class O-27g cars! These cars, however, were not equipped with nailable steel floors, but with cushioned cradles, for unprotected shipment of coiled steel sheet. This



conversion was done on existing class O-27a, O-27l, and O-27m drop end cars (discussed later), by removal of the drop ends and installation of the cradle. The cradle was 34 feet long, and held in place laterally by guides bolted to the floor. Only one car in this class remained by 1964.

A similar conversion like the earlier O-27g, on a single O-27a, as car 248500, in new sub-class O-27h, also involved installation of a nailable steel floor, and was also done in 1948 at Glenwood Shops.

Sub-class O-27j, a seven-car conversion of O-27a cars, occurred in 1954 and '55 at Glenwood Shops. This conversion involved fixing of the ends and installation of power handbrakes, composite flooring and steel stringers. These cars lasted into the 1960's as converted.

Also in 1954, an unknown number of sub-class O-27k cars were created from earlier O-27, by installation of composite flooring and steel stringers. These cars were placed in series 550000-550499, with 47 cars in this series lasting into the 1960's as converted.

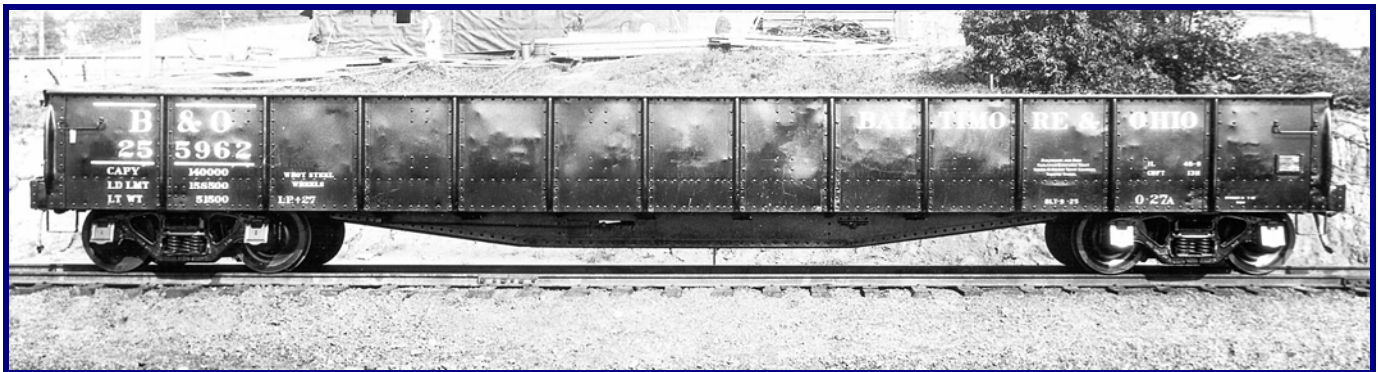
Larger-scale rebuildings of O-27a occurred in 1954 as sub-class O-27l. This rebuilding also involved the installation of composite flooring and steel stringers, but also added an angle-iron top chord reinforcement. An unknown number of cars were ultimately converted, from earlier Cambria Steel, Bethlehem Steel, General American, and Standard Steel Car Company cars, and placed in series' 550500-550499,

5512500-552499, 552000-553499, 553500-553999, and 554000-556499, undoubtedly to accommodate the large number of rebuilding expected. Only 337 cars in these series lasted into 1964 as converted.

Additional rebuildings of O-27a occurred as new sub-class O-27m, with 405 cars converted in 1955, and 225 more cars in 1957, at Pullman-Standard. These cars featured new corrugated Dreadnaught drop ends, corner-mounted pump brakes of Equipco, Klasing or Universal manufacture, composite flooring, and an angle-iron top chord reinforcement. Of the 405 converted in series 557000-557406, 401 still remained in 1964, and of the latter 225 1957 conversions in series 557457-557681, 223 remained in 1964.

The final sub-class of original USRA clones occurred in 1955 and 1957, with rebuilding of O-27a as new sub-class O-27n, with 543 cars converted in 1955, and 50 more cars in 1957, also at Pullman-Standard (a total of 593 cars in total). These cars featured new corrugated Dreadnaught ends, but mounted as a fixed end in the original drop-end yoke, with end-mounted power handbrakes, composite flooring, and an angle-iron top chord reinforcement. Lading band anchors were added to at least some of these cars. Of the 593 converted in series 557407-557456, and 559000-559542, 50 cars of the former, and 535 cars of the latter, still remained in 1964.

The final O-27 sub-class, the O-27p, was not a conversion of a USRA car, but of an O-27b fishbelly car, and is not discussed further here.



O-27a number 255962, B&ORRHS Collection.





O-27n number 559385, B&ORRHS Collection.



O-27n number 559316, B&ORRHS Collection.

## Trucks

B&O diagrams indicate the use of 51-Q, 51-V, 51-P, and 51-PA trucks, as supplied with the cars as-built, or as re-built. These are an Andrews-style 70-ton, Arch Bar, and 70-ton standard (a.k.a. “friction”)-

bearing trucks, as discussed above. The Andrews and Arch Bar were replaced with more modern trucks following the banishment of “Andrews”-type trucks from interchange service, and all photos from the 50’s on show the latter type in-service.

## Car Numbers in Service

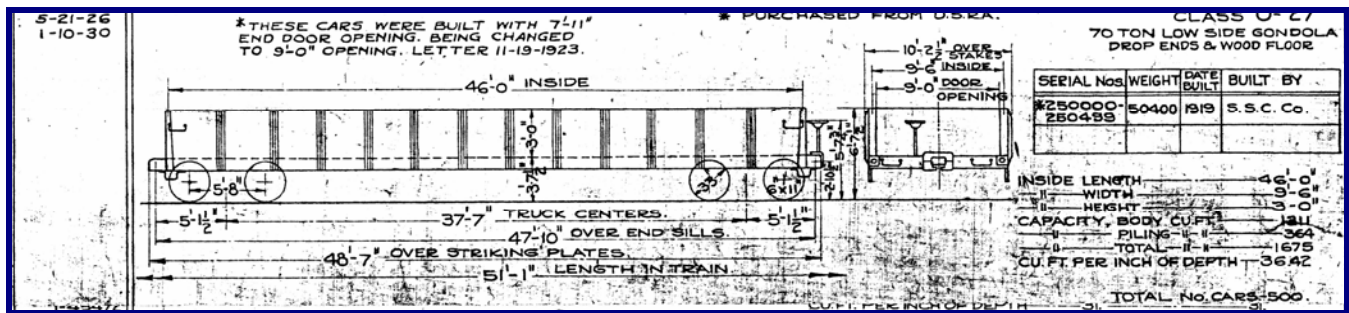
Class	Car Numbers	No. Built	1928	1934	1944	1948	1952	1956	1960	1964
<b>O-27</b>	250000-250499	500	500	500	493	489	477	407	76	22
<b>O-27a</b>	250500-256499	6000	5995	5943	5965	5938	5913	4929	2516	884
<b>O-27c</b>	256500-256549	50	0	50	11	11	11	9	7	3
<b>O-27e</b>	250470	1	0	0	1	0	0	0	0	0
<b>O-27f</b>	249000	1	0	0	0	1	1	1	1	1
<b>O-27g</b>	248000-248003	4	0	0	0	0	4	2	1	1
<b>O-27g</b>	560000-560074	75?	0	0	0	0	0	?	?	1
<b>O-27h</b>	248500	1	0	0	0	0	1	1	1	1
<b>O-27j</b>	650500-656499	8	0	0	0	0	0	7	8	8
<b>O-27k</b>	550000-550499	51	0	0	0	0	0	45	51	47
<b>O-27l</b>	550500-556534	352	0	0	0	0	0	298	352	337
<b>O-27m</b>	557000-557406	407	0	0	0	0	0	407	406	401
	557457-557681	225	0	0	0	0	0	0	224	223
<b>O-27n</b>	557407-557456	50	0	0	0	0	0	0	50	50
	559000-559092	93	0	0	0	0	0	93	93	
	559093-559392	300	0	0	0	0	0	0	300	538*
	559393-559542	150	0	0	0	0	0	0	150	

Notes:

1) Data from Jim Mischke, Al Westerfield, and several minor sources.

\*\* Sum of all in series 559000-559542.





## Appearance over Time

In B&O service, the O-27 cars were painted black, and originally lettered in the standard fully spelled-out "Baltimore & Ohio" lettering in the 9<sup>th</sup> through 12<sup>th</sup> panels from the left. The small "B&O" and car number was spread out over the first and second panels, with a line over B&O and under the number. Data was arrayed under the number. By 1950, at least, the spelled-out "Baltimore..." had been relocated to the 5<sup>th</sup> through 8<sup>th</sup> panels, and the "Linking Thirteen Great States..." logo placed in the 12<sup>th</sup> panel. The "B&O" and car number had been relocated to the 2<sup>nd</sup> and third panels. The equal-height Billboard "B&O" (a.k.a. "Early Billboard"), I have been told, came in 1953, and cars were still being repainted in this scheme as late as August, 1955, with the introduction of the O-27n sub-class. The billboard letters appeared in panels 6 through 8, with class data in the next to last panel to the right. Cars repainted after that date appear to have been given the smaller ampersand Billboard B&O, but with the lines removed from over the small B&O and under the car number. The font used appears to have remained the same. This last scheme appears to be the one used through the 60's, when most of the cars were being retired.

Visual change to the outward appearance of the cars was largely related to the rebuilding discussed above. Original drop ends were replaced with Dreadnaught drop ends, apparently as needed, but almost uniformly were applied with the O-27l, m, and n rebuilds of the mid-50's. Top chord reinforcements were also added at that time. Replacement of tie-down equipment also was discussed above.

## Modeling the O-27 Classes

Modeling the O-27 classes in HO is an easy task, given the existence of the exceptional USRA gon in several B&O incarnations, as the starting point for a model. The Westerfield O-27 kit is the benchmark for these cars, providing not only a highly accurate kit, but also the extensive history Al supports with his research. This model has the correct details for the

cars as-built, and as rebuilt with AB brakes. No model exists for the rebuilds following the O-27a.

A lesser-quality USRA car kit is also marketed by Walthers in HO, as a "shake-the-box" kit that includes no interior sidewall detail, incorrect ends, and only rudimentary underframe detail. This car can be constructed with a load to hide the lack of interior detail, and upgraded as the owner desires.

Crown trucks, as provided on the O-27 as-built, are available from Bowser. Arch bar trucks, as provided on the O-27a as-built, are available from Kadee and others. Stewart 70-ton trucks are available from Bowser. The trucks provided with the Walthers kit are anachronistic for an as-built car, but no one can say for sure that they never appeared on a later prototype, as re-built.

## The Model

I chose the Westerfield kit as the basis for my models. Both models I got were slightly warped (twisted). I cured that by placing the models upside-down, on a flat sheet of steel protected by a sheet of aluminum foil, in an oven which had been heated to 150 degrees, then TURNED OFF, before the models were placed inside. They were left there for 10 minutes, then brought out and cooled down with a small weight placed on top (well, on the bottom of the underframe), until cool. It worked like a charm.

I decided to construct an O-27a from the 1925 series, using the "creased" ends and original brake gear, and also an O-27m, with replacement Dreadnaught ends and a new corner-mounted pump brake, as rebuilt in the mid-50's.

1) I began by cleaning up the car body with sanding sticks, a small file, and a new, pointed hobby knife blade. The slots in the underframe must be cleared out, and the top chord cleaned up. I used fine sanding sticks to clean up the drop end openings.

2) Flash was cleaned off the small parts by sanding them down on a sheet of fine (400-grit) sand paper taped to a piece of glass. When the flash is very thin, you can cut them out with a brand new hobby knife blade, and then clean up the edges.

3) Drill for truck screws. I used a #50 bit, and drilled only about 3/32" into the bolster, for a 2-56 x 1/8" screw. You needn't add the trucks now.

4) Drill all of the grab iron holes now. I used a #78 bit in a pin vise, and drilled all the way through the body. Clean off any shavings.

5) Add grab irons. Look at the instructions first, to see where each grab is located, and what type is used. I use a beautiful, self-locking set of small pliers I got from Micro-Mark to grab each grab iron on its outer rung surface, then cut the legs off about 8" long. I then dip the ends of the legs in a pool of thin CA (cyanoacrylate; a.k.a "Super Glue") cement I pre-place on a throw-away cup lid or jar top. I then quickly shove the grab iron legs into their respective holes (start with one hole and then push leg two into its hole), so that the grab is about four scale inches off the surface. You can practice without the glue, if you are insecure about how this actually works. None of the grab leg should intrude into the interior of the car, but you can cut off excess with a pair of flush-cutting nippers (Xuron makes a nice pair). The CA will quickly set, and you can move on to the remainder of the grabs. Do not fret if a few are loose, or off-kilter. You can easily reposition them by just gently pulling on the offending leg and repositioning it (sometimes I bend one leg a little, and that solves the problem), or by adding a little thin CA on the tip of a pin or fine wire, to the loose juncture.

6) Examine the drop ends and clean them up. They can be sanded to fit, if too tight, or you can add thin styrene strip to the edges, if too loose. You do not have to make a decision as to whether or not you have to cement them in place, yet, but you will get a better paint job if you paint them separately and add them at the last minute, plus you can do the optional "working drop end" if you leave them off now. If you want to do a later rebuild with Dreadnaught ends, you will need to obtain a set of Tichy or Life-Like P2K drop ends (from their gondola kits). They need to be widened to fit snugly in the car body, so you can add overly-long pieces of .02" x .03" styrene strip to each side, and then cut to length after the cement has cured.

7) ATTENTION: Clean your hands before and after this step, and do not get the dust from sanding in your mouth or eyes! Test-fit the floor in the car body casting. Do not force it in, but sand gently until it drops in and out. You will paint the floor separately, so when it fits, set it aside; then clean both it and your hands (and the sandpaper) thoroughly, since the floor casting contains lead.

8) Add couplers of your choice. I chose Kadee #58's. Put the spring in (if needed), then add the coupler, and then the lid, which you cleaned up earlier. Cement in place with small drops of thin CA.

9) Trim and test-fit the bolster cover plates. They should show slightly, but not extend out beyond the edge of the side. Put some CA into the bolster cover plate seats, then press each cover plate into place.

10) Test-fit the sixteen crossbearers. If a trainline is desired, you must drill and place a stack of crossmembers on a piece of pre-bent .015" wire, before jockeying the whole mess into place. Use the instructions for placement, but expect a battle. Each crossbearer may require slight trimming to fit into place between the inside edge of the side, and the outside edge of the underframe members. The curvature of each fits over the top (actually bottom) of each stringer. Add opposing cross members two at a time, to ensure they are lined up. Drop of CA can be added to secure them.

11) Add the short, riveted crossbearer cover plates, to the 2<sup>nd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, and 7<sup>th</sup> crossbearers. They butt up against the center sill. One crossbearer cover plate contains a small raised block that functions as the fixed point for the short brake lever. See the instructions for placement.

12) Add the brake details. Directions are provided for both K and AB systems, but be aware that many rebuilds had a re-located reservoir, placed transverse to the center sill. This seems to have been the case with the -l, -m, and -n sub-classes. See the photo below for placement. I pre-drill each component, pre-bend each wire (use .012" wire for the pipes and rods), and then add portions of the assembly partially built, in preference to adding the components and then the "pipes" or rods. It is just much easier for me. I also added a short piece of chain to my O-27m at the cylinder lever actuating rod, as this shows when the car is on the track. I used the provided "chain" on the O-27a, and am sorry I did so. I may go back and fix this.

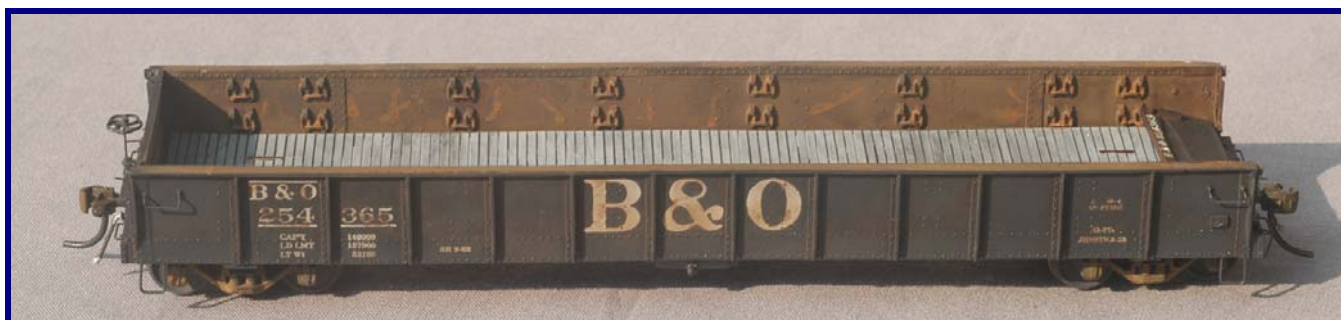


13) Add trucks temporarily to protect the underbody equipment. Check coupler height and adjust as needed.

14) If you want to model drop ends in their raised or lowered position, and decide you will model one or more in a raised position, cement in place and add the latches according to the instructions. If they are to be movable, add the latches as if they were dropped.

15) Clean up your choice of brake wheel, and the small ratchet, brake assembly “rest” (or “stop”; it looks like a small “V”), and the upright rest/stop, according to the directions. Look closely at the photos below for placement. If you are modeling the “B” end in a dropped position, you must also model the brake assembly in a dropped position. I did two assemblies at the same time, so if I messed up, I had

a spare (parts are provided for 2). I mounted each brake wheel on a length of .015” wire (with lots to spare on either side), then mounted the ratchet approx. 18” below it. The “bottle-shaped” (the rectangular box with a bottle neck-shaped casting sticking out of one end) take-up housing can be mounted loosely below it, and cemented in place later. Now cement the horizontal rest in place at the top edge of the end sill above the left grab, with the notch facing to the left. The vertical rest (the “V”) is glued in place vertically to its left, like in the photo. After these are secure, mount the pivoting part of the assembly in place (either dropped/horizontally, or raised/vertically), and cement in place. If mounted as dropped, make sure the wheel does not extend out beyond the edge of the car. The take up can now be cement in place at the pivot, and excess wire trimmed off. Whew!



O-27a



O-27m

16) Modeling the O-27m with the corner-mounted pump brake, replace the left “B-end” outside rib with a piece of .04 x .06” styrene strip, cut and shaped to fit. Trim away the existing rib and test-fit until satisfied, then cement in place. Trim off the portion of the drop end yoke “lip” adjacent to the place where the pump brake will be mounted, then add a thin strip of styrene to the inside edge of the drop end opening. I used a cast resin base I made for the pump brake housing, and cut a thin piece of styrene sheet to shape for the handle. It was mounted on a piece of

.012” wire. It is not perfect, but better than most other options

17) Add coupler lift bars. I pre-bent .015” wire to resemble the top-mounted lift bars, then drilled and placed small eye-bolts to hold them in place, as the provided “C” castings looked too coarse for my taste. A mount needs to be placed just to the left of center and toward the left end, of the top of the end sill. Place the mounts, then cement in place. Add the coupler lift bar, then bend the center portion above the coupler to hold in place.



18) Remove the trucks and drill #74 holes for A-Line “Type A” stirrup steps, or mount the provided (but fragile) Westerfield castings. Cement in place. You are done with the assembly!

### **Painting, Lettering, and Final Assembly**

I chose to paint these models in several phases, due to the fact that I wanted them to represent old and weathered cars during their final days on the road. The basic car body was painted in a lightened shade of black, using Modelflex Black and Reefer White, mixed to suit (just off-black). The drop doors were stuck to a piece of tape, and the outside ends painted, too.

I chose to use the Westerfield decals for my “Equal Height Billboard B&O” car, and most of this set for my “Small Ampersand Billboard B&O” car, but with the substitution of the big “B&O” from the Champ B&O gondola set for that portion. I used water to drift each piece into place, then used both Microscale Micro-Set and Micro-Sol to fasten them in place. I had to repeatedly slice and re-apply to get them to end up settling down. Since the Champ set is noticeably yellower than the Westerfield set, I tried to bleach out the Champ set by placing it in the sun for a week. Even so, the Champ decals ended up still yellower, and also foggier, than the Westerfield set, so I had to come back and fill in large portions of the “B&O” with white paint to get them to blend better. We need a better late Billboard gondola set! This was followed by a coat of mixed Dullcote and Glosscote

to blend the decals and provide a base for weathering. Trucks were painted with Grimy Black.

### **Weathering**

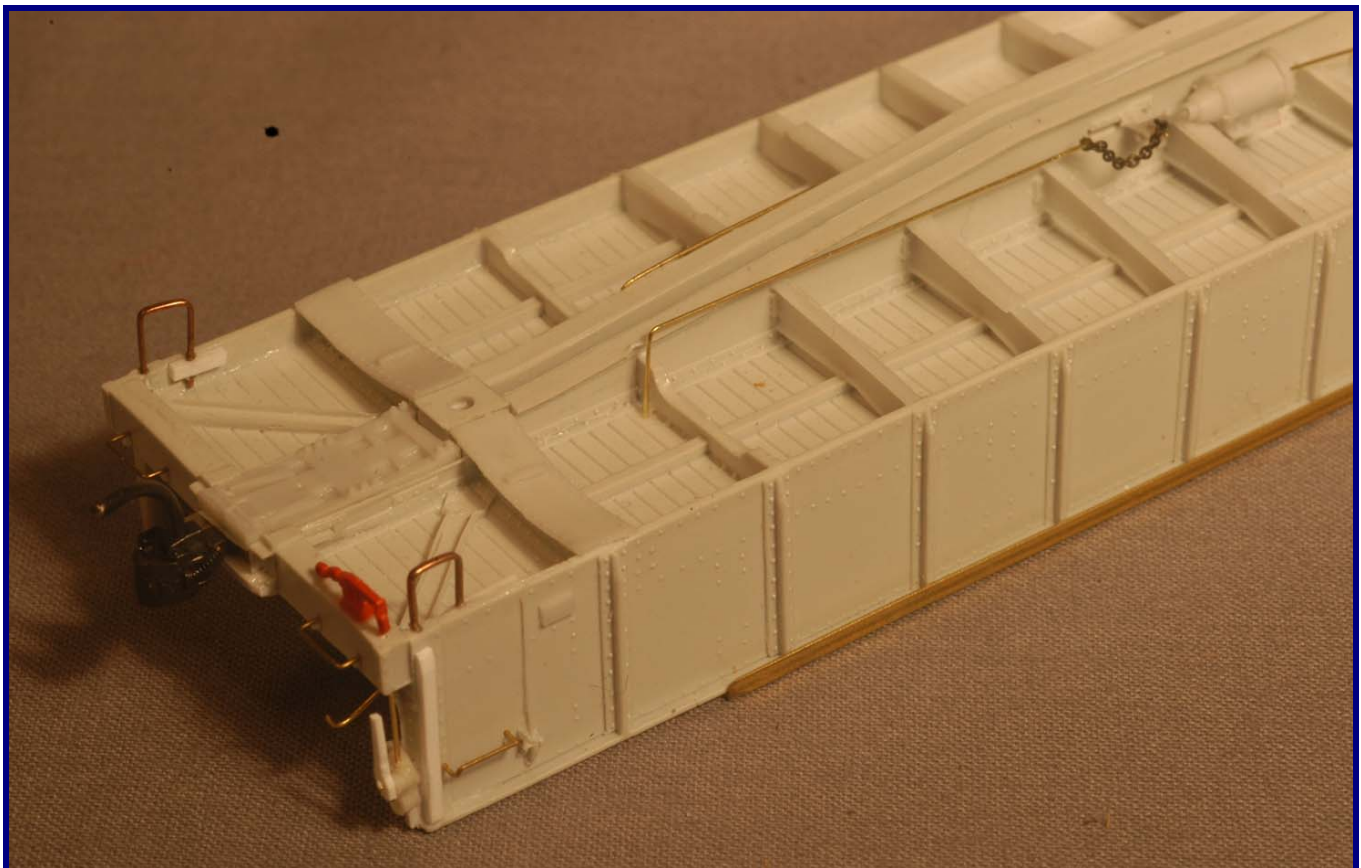
The entire car body was weathered initially with a light wash, randomly placed, of Burnt Umber Oil tube paint, cut with mineral spirits. More of this wash was placed in the lower portions of each panel, immediately above the floor line, in a very faint coloration, to represent panel damage and subsequent rusting. The earlier car was weathered more. The car floors were dry-brushed with primer grey and later given a wash of black. This was repeated until the boards were all highlighted and the cracks deeply shadowed, as appropriate for a very old wooden floor with a lot of weather damage. The ends of the cars were masked to protect them from over-spray, then the interiors sprayed with Floquil Railroad Tie Brown, a light brown that looks like overall rusting, and later dabbed and roughly stroked with Burnt Umber, as representing larger damage. This was then over-sprayed with darker brown to represent old rust, and to blend the earlier work. The entire cars were then blended with a light overspray of lightened Grimy Black, to fade and blend the lettering and paint. This was followed by limited painting of individual boards, to create a slightly rotted or deteriorated condition evident in photos. The trucks were finished with an overspray of Rust on the sideframes, the wheelsets re-installed, and trucks mounted on the car body. Finished (well not ever, really, but what can I tell you...)!



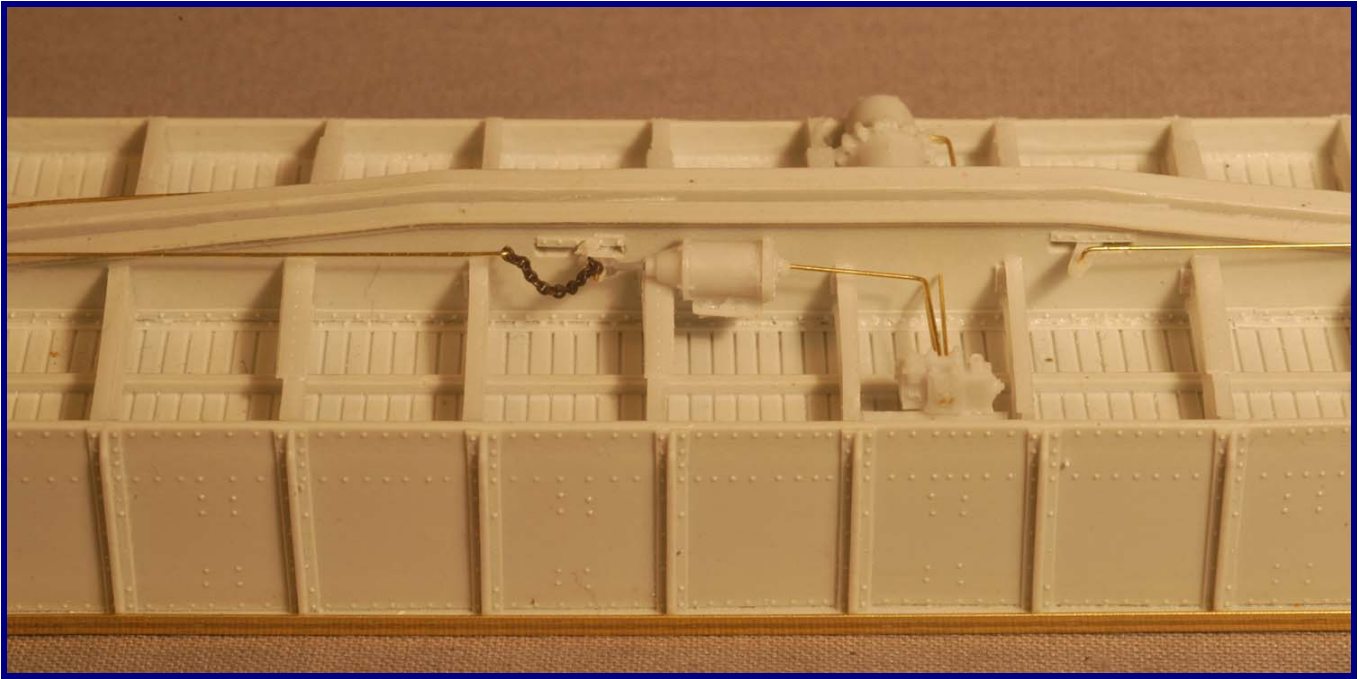


## References

- *B&O Color Guide to Freight and Passenger Equipment*, page 40. Morning Sun Books, Inc., 1996.
- B&O Freight Car diagrams; courtesy of Jim Mischke.
- Instruction and Data Sheets, USRA Gondola Cars; as Modernized; Westerfield Models.
- *Official Railway Equipment Register*; The Railway Equipment and Publication Co., NY, NY; various dates
- Photographs of B&O gondola cars; courtesy Ben Hom and the B&O Railroad Historical Society collections.



This photo shows the addition of a Life-Like Proto2000 brake fulcrum (from the P2K Greenville gon kit), corner-mounted pump brake housing and handle, and connecting cable (.012" wire). Also illustrated is the mounting of the stirrup steps and new corner rib. The mounting of the brake cylinder actuating rod and connecting chain is also shown.



This photo illustrates the alternate (mid-50's rebuild) placement of the reservoir, and mounting of the AB valve, piping, and rodding, on the O-27m.



## 17 ROOMETTE – 1 SECTION CLASS S-18 *ROARING CAMP*

BY BRUCE ELLIOTT

PHOTOS BY AUTHOR UNLESS OTHERWISE SPECIFIED.



### The Prototype

This car was the last known project of the late Harold "Bud" Stringham. Though it never got beyond the "desire" stage, this car was quite unique on the B&O. It ran opposite the Pullman car, *L S Hungerford*, on

the Ambassador, between Baltimore and Detroit. Although the car has more of the appearance of a lightweight streamlined car, it is in fact an old heavyweight that was rebuilt for the Union Pacific.



S-18 *Roaring Camp*, Baltimore, MD on December 21, 1954. W.C. Kehs Photograph, Bill Barringer Collection

### The Model

In building this car, I used the same starting point as the prototype, an old heavyweight. This car began as a Rivarossi 12 sec.-1 DR Pullman. The modernized appearance of the car is almost a complete about face, in appearance from the heavyweight car that went into the Pullman shops. None of the windows on the Rivarossi car could be used, so they were all removed on both sides, between the vestibules. Now,

where would I be able to come up with modernized Thermopane windows ? Bud was a machinist by trade. If he had lived to complete the car, it would have had a brass machined window strip to insert where the old windows were. I am not a machinist and so I had to look for another way to do this. Necessity is the mother of invention, and so I came up with the idea of using the windows out of a Rivarossi lightweight coach. Well, it was not that

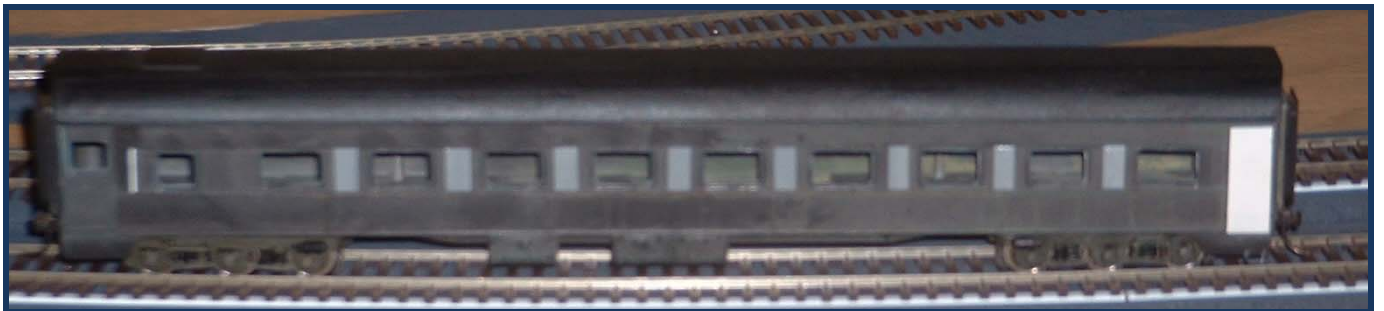
easy. The coach windows are a fine example of a Thermopane window, but they are too wide. First they had to be cut out of the lightweight coach and they had to be cut to the same height as the opening between the belt rail and the letterboard on the heavyweight car. After a bit of filing, the new windows fit for height, but not for width. A lightweight car is several feet longer than a heavyweight. The heavyweight seems even shorter when you consider the vestibule at each end of the car. Now let's shoe-horn those modernized windows into a heavyweight. One good thing that Bud had done was to make an HO scale drawing of both sides

of the car. All that had to be done now, was to pattern the window strip exactly like the drawing. All of the windows had to be cut down approximately 14 scale inches in width. Coincidentally most of the width of the window that was cut out was replaced with spacing between the windows. Slowly, with the drawing as the pattern, the windows started to take shape. New England Rail Service (NERS) makes blank window panels that are designed for the Rivarossi car. I used blank window sections about approximately 14 scale inches wide cut from the NERS panel.



As a modernized car, there was only one vestibule on the car on the B end after the rebuild. I chose to trim the handrails and door handle off the door and cover both vestibule doors on the A end of the car with a piece of evergreen styrene .010 thick cut to fit the opening. As a rebuild, the car also had modernized doors in the vestibule. To achieve this I removed the vestibule doors and end skirts off of the lightweight coach and installed them on the B end of the car. The

lightweight doors are several inches wider than the heavyweight doors. I chose to cut the extra width out of the car sides for a smoother fit. I then cut off the skirts from the A end of the lightweight and applied them below the enclosed vestibule on the A end of the heavyweight. Next, I removed the brakewheel assembly from the B end of the heavyweight car. The handbrake assembly was located inside the vestibule.



My Betterment roof was another product of Mr. Stringham. Bud took two pieces of shoe molding and glued them together, and then with a router bit that he had made with the same contour as the betterment roof, he reshaped the roof line. The ends were cut to the 11-degree angle to fit the Rivarossi car, and the lower end of the roof was recessed to lower the roof into the car, on the same arch as the car end. At times it could be a snug fit and other times a bit loose. To insure that the roof is secured to the car, it is held to

the body by four 2-56 screws that are 2" long. This is accomplished using tubing with an i.d. of 0.0700" (i.e., the same as a #50 drill, which is the tap drill for a 2-56 screw). The tubing is tapped 2-56, then cut 1/4" long. Make four of these. Drill two 2-56 clearance holes in each end of the car, just behind the vestibule walls. The car and roof were put in a vise, on a drill press and leveled. The clearance drill was used to start a pilot hole in the roof that would be straight. Next the roof itself was put back in the vise



and leveled. A clearance drill was used to drill a hole in the roof to mount the threaded sleeve. Care needs to be taken to not drill through the roof. If you do, you will have a hole to fill. Once the holes are cut in the roof you can slide the sleeves in the hole. Just before I pressed them down flush with the roof, I put a dab of super glue on the outside of the sleeve. Without the super glue the sleeves would pull right out of the roof. Roof vents were another creation of Bud's years ago. These were photo etched, and applied as necessary.

The only undercarriage details that I chose to change were the replacement of the pressurized water tanks. I removed the twin tanks on the car and replaced them with a NERS 145 gallon tank. The trucks on this car

were unique; they had two brake chambers per truck, located on each side, and the trucks had roller bearings. I was quite fortunate that IHC marketed a replacement truck for the heavyweight Rivarossi car that was "just what the doctor ordered". I body mounted the couplers with Kadee # 58 couplers, and scratch built the coupler support frame around the coupler box from Evergreen styrene. I rounded the lower corners and then mounted Cal Scale steam and air lines to the coupler support frame. I then installed Bethlehem Car Works diaphragms to the end of the car. The vestibule doors were replaced with scratch built doors from .020" thick evergreen sheet styrene with a round art deco window rather than the old square window.



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## **PLANNED FOR THE NEXT ISSUE**

**Two for “T” - *Modeling B&O’s First Mountain-type Locomotives*  
Building Sunshine Models’ M-55c Boxcar  
HO Scale GM50 Diesel Locomotive**

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